Environmental Information for the Community of McIntosh, Alabama

Community Health Concerns

The recent filing of a civil legal action against a local chemical plant and media coverage the action has received has raised health concerns in the McIntosh community. More specifically, allegations of mercury contamination within the community have made the citizens uneasy about their health and the quality of the local environment. For more than 20 years, the Alabama Department of Environmental Management (ADEM) and the U.S. Environmental Protection Agency (EPA), with the support of the Alabama Department of Public Health (ADPH), have regulated environmental protection activities at chemical plants in McIntosh, Alabama. During this time, significant cleanup actions have been completed at the Ciba Geigy and Olin plant properties. Monitoring of the effectiveness of these actions is ongoing. EPA, ADEM and ADPH are issuing this fact sheet to inform the community about ongoing efforts to protect human health and the environment in McIntosh.

Our Roles

ADEM

ADEM is authorized to oversee all regulatory issues (air, water, soil, etc.) concerning the Olin and Ciba facilities. ADEM is responsible for ensuring compliance with both state and federal regulations. Permits issued to Ciba and Olin by ADEM place limitations and controls upon facility operations designed to protect human health and the environment from dangerous releases of hazardous contaminants to the environment.

Wastewater and storm water discharges from Olin Chemical (Olin) and Ciba Specialty Chemicals (Ciba) are regulated by permits issued by the State of Alabama. The terms and conditions of these permits were developed by the Department in accordance with applicable federally approved Alabama National Pollution Discharge Elimination System regulations and water quality standards.

The treatment, storage, or disposal of hazardous wastes is regulated by permits issued under Alabama's Hazardous Waste Program. ADEM is authorized by the federal government to administer this program. These permits also require corrective action of any release of hazardous chemicals to the environment from any past solid waste activity.

ADPH

The ADPH addresses public health concerns as well as assists with the evaluation of environmental sampling data developed by EPA and ADEM. The data is monitored to determine whether levels of various forms of mercury found in samples have the potential to cause a health effect in individuals who may come in contact with these materials. ADPH also works with ADEM in monitoring fish tissue for mercury content, as well as other contaminants, to determine whether modifications to existing fish consumption advisories are warranted.

EPA

EPA's Superfund cleanup role at the Olin plant is limited in scope and addresses eight areas of the production facility. The Superfund cleanup process began at the Olin plant in the early 1980's prior to ADEM receiving federal authorization for its own remediation program.

As part of the Superfund process, the Olin property has been divided into two Operable Units. Operable Unit 1 (OU-1) includes the 60 acre production facility, and Operable Unit Two (OU-2) includes the former wastewater ditch and the flood plain area, approximately 220 acres, adjacent to the Tombigbee River.

EPA has overseen cleanup activities of OU-1 at Olin (ground water pump and treat and landfill

capping). It is EPA's responsibility to ensure that the OU-1 cleanup continues to be protective of public health and the environment. As part of this continuing responsibility, EPA is conducting a mandatory Five Year Review of the OU-1 cleanup remedy. Five-Year Reviews are required at all Superfund sites where waste is left on-site after the conclusion of cleanup activities. This enables EPA to ensure that the implemented cleanup at a site continues to be protective of human health and the environment. EPA is also evaluating the appropriateness of an active cleanup of OU-2.

The Ciba-Geigy Site is divided into four Operable Units as identified in the ROD issued for Operable Unit 2 in September 1991. All Operable Unit remedies have been implemented. The Five Year Review of OU-3 is currently being conducted.

Recent Sampling

In an effort to address recent community health concerns, ADEM and EPA have collected environmental samples from locations along Allen Barns road and other locations in the community. Working with ADPH, the sampling results were then evaluated based on exposure pathways. The evaluation determined that while the sampling detected the presence of mercury, the mercury concentrations were not at levels that would indicate a significant human health risk in the community.

Mercury exists in different forms in the environment, however, some forms are considered more hazardous because they are more bioavailable (i.e., can be more easily absorbed by the body through inhalation or ingestion). Thus, air samples collected by EPA and ADEM were analyzed for mercury vapor because it is the most bioavailable form of mercury in air. Likewise, soil samples were analyzed for "total mercury," while several samples were also analyzed for the different types of mercury, or "speciated," to measure the levels of mercury's more bioavailable forms.

EPA and ADEM evaluated the potential risk posed by chemicals in the environment by comparing sample results to conservative, risk-based "screening" levels. Screening levels are not cleanup standards, but instead, are conservative, health risk-based levels that assume all of the contaminant in a sample is bioavailable. Thus, if the results of the samples are below the conservative screening levels and have a large margin of safety built into the value, EPA and ADEM believe that no further action or investigation is needed.

The levels of mercury detected in air and soil samples from McIntosh were compared to EPA's screening levels for air and soil. In McIntosh, the average level of mercury vapor detected at the High School during the month of August was 7.9 nanograms per cubic meter of air (ng/cu.m.), which is approximately 40 times less than EPA's screening level of 300 ng/cu.m. With regard to soil, only three of the 18 off-site soil samples contained measurable levels of total mercury, and none of the samples had levels of the more bioavailable forms of mercury that could cause harm to adults or children. The highest level of total mercury detected in off-site soil (10.9 parts per million (ppm)) is less than EPA's residential soil screening level of 23 ppm.

ADEM and EPA also conducted tests and air monitoring on aggregate material collected from the brine well sand piles and along Allen Barns Road to see if harmful levels of mercury could be released into the air and water. All of the measurements were well below EPA's screening level of 300 ng/cu.m. To see if mercury in the aggregate could dissolve and subsequently be released into surface water or ground water, a leach test was performed where samples of the aggregate were drenched in a strong acid. The test results indicate that the mercury is tightly bound to other components in the aggregate and harmful levels of mercury are not being released. The results of the leach test are further supported by the fact that mercury in the ground water wells in the area of the brine well piles does not exceed cleanup standards.

Olin reported mercury detections (total recoverable) via Discharge Monitoring Reports (DMR's), as required by their NPDES permit, from January 2003 through June 2005, collected at the storm water runoff monitoring locations, DSN002 and DSN003, at levels at or below the detection level of 0.2 parts-per-billion (ppb). This detection level is below Alabama's dissolved mercury freshwater acute water quality standard of 2.4 ppb. Assuming no additional dilution from flow naturally occurring in the receiving stream, the concentration of mercury reported in Olin's storm runoff has been well

below the safe in-stream level based on EPA-approved standards for Alabama.

Based on the recent samples collected, the Agencies believe that there is **no** indication of danger to the citizens of McIntosh from contact with mercury in soils, air, surface water, or ground water in the community, including the roads in McIntosh and the brine well sand piles fenced within the Olin property. The continuing cleanup of contamination on the Olin and Ciba facilities is being monitored and evaluated by EPA and ADEM.

ADPH is considering adopting more protective standards for mercury levels in freshwater fish. Discussion is ongoing on what the standards for fish will be; however, the result is likely that additional surface waters may be included under Alabama's fish consumption advisory program. Due to reductions in methyl mercury levels in fish, the fish consumption advisory for the Tombigbee River was lifted in 2004; however, as additional fish tissue data become available and the state's advisory program is evaluated, the consumption advisories on the surface water bodies in the McIntosh area may change. Statewide fish sampling is currently underway. ADPH plans to issue the next round of advisories in spring 2006 after the sampling data is evaluated. Information on fish consumption advisories and ways to limit exposure and health risks from contaminants in fish is available by calling (334) 206-5973 or visiting the ADPH website: http://www.adph.org/risk/default.asp?templatenbr=0&deptid=145&templateid=1349 .

Ongoing Cleanup Actions

ADEM will continue to acquire environmental data to ensure protection to public health and the environment. On August 16, 2005, ADEM began an extensive stream monitoring study for the Bilbo Creek Watershed. The main focus of this study is to quantify the concentrations of mercury in the surface waters of the Bilbo Creek watershed surrounding McIntosh area during both wet- and dry-weather conditions. Sampling is expected to continue throughout fall 2005. In addition, monitoring of groundwater, surface water, air, and other media will continue through the companies' various permits with ADEM.

Five Year Review at Olin OU-1

EPA is currently conducting a mandatory Five Year Review of the OU-1 cleanup remedy. This review will address whether the OU-1 remedy remains protective of human health and the environment. A report on the review is scheduled to be released in early 2006.

Future Plans at Olin OU-2

For OU-2, EPA, ADEM, and State and Federal Environmental Trustees, and the Olin Corporation are preparing to evaluate Enhanced Natural Sedimentation (ENS). The ENS project will require that a berm, approximately 10 feet high, be constructed between the Tombigbee River and the Olin Basin (OU-2). The idea behind ENS is that the berm will allow the River's floodwater to remain in the OU-2 area for a longer period of time, and sediments will drop out of the floodwater to form a natural cover over the contaminated sediments. The ENS project is not a final remedy, but it will allow all the parties involved to evaluate the movement of sediments and mercury in the OU-2 area. The information that will be gathered during the ENS project, especially information on the movement of the sediments and the mercury, is essential for the selection of a final remedy for OU-2.

Five Year Review at Ciba OU-3

EPA is currently conducting a Five Year Review of the OU-3 cleanup remedy. This review will determine whether the OU-3 remedy remains protective of human health and the environment. The review is expected to recommend additional sampling of soil, sediment and surface water. The review may recommend that additional remedial options be considered to address contamination left in ecologically sensitive areas of the flood plain during the initial cleanup. The Five Year Review is expected to be completed for Ciba-Geigy in early 2006.

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ADEM, ADPH, and EPA have been working with the Ciba Geigy and the Olin Plants for over 20 years and will continue to do so to provide a safe environment for the citizens of McIntosh, Alabama.